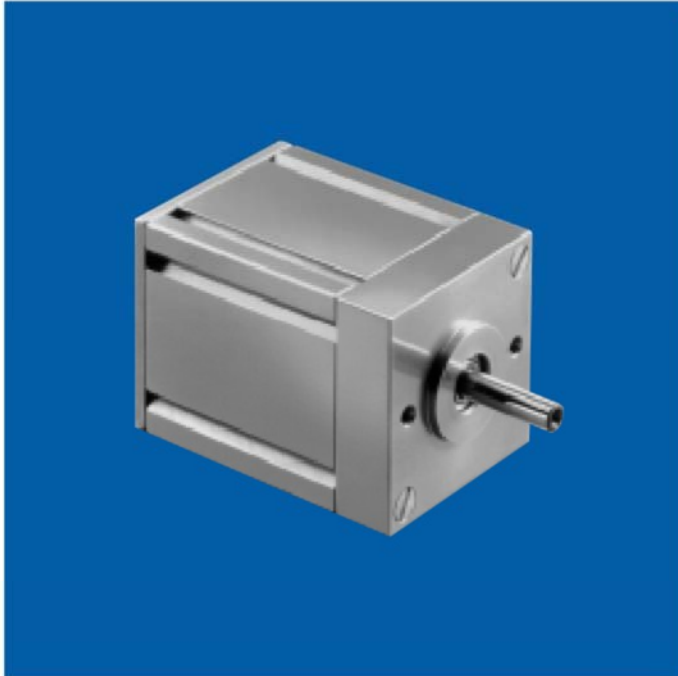


NB-15 MOTORS

Brushless DC Permanent Magnet Motors

AN-1500



peak power rating: .094 hp (70.1 W)

voltage: 27 VDC nominal

weight: 12 ounces

shaft: Precision-ground, 400 series stainless steel per ASTM A582. Options: length, smaller diameter, flats, pinions, gears, holes (through or tapped), threaded ends and tapers. Type of steel used may change depending upon variation selected

magnets: Molded samarium cobalt

bearings: Double shielded, life-lubricated for -55°C to +85°C operation

cables/leads: 8 lead wires (MIL-W-16878/4) 18" minimum covered with shielding per QQ-B-575

motor housing: Aluminum

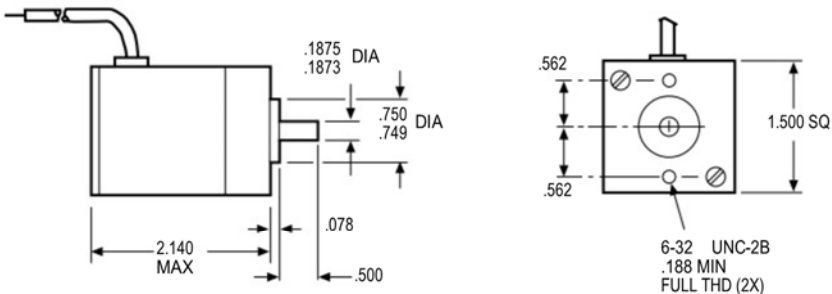
sensors: Integral hall effect

marking: Per MIL-STD-130

options available:

- Gear train

Dimensions



AN-1500

Motor Characteristics

| ITEM | ABBREVIATION | UNITS | REFERENCE VALUE |
|-----------------------------------|--------------|--------------------------|-----------------|
| Motor Constant (K_t/\sqrt{R}) | Km | oz. in./ \sqrt{W} | 2.45 |
| Electrical Time Constant | Te | msec. | 0.59 |
| Mechanical Time Constant | Tm | msec. | 9.2 |
| Max Cont Input Power | P | W | 119 |
| Temperature Rise _r | TPR | °C/W | 3.2 |
| Max Winding Temperature | | °C | 180 |
| Rotor Inertia | Jm | oz. in. sec ² | 0.0004 |
| Number of Poles | | | 4 |
| Winding Connection | | | 3 phase WYE |

†Assumes motor is mounted to 8.00" x 8.00" x .25" aluminum heat sink

Winding Characteristics

| VOLTAGE (VDC) | SPEED no load (rpm) | TORQUE | | CURRENT | | | CONSTANTS | | STANDARD PART NUMBERS* |
|---------------|---------------------|---------------------|--------------------------------|--------------------|-----------------------|-----------------------------|-----------------|----------|------------------------|
| | | max rated (oz. in.) | ** theoretical stall (oz. in.) | max no load (amps) | max rated load (amps) | ** theoretical stall (amps) | K (oz. in./amp) | R (ohms) | |
| 27 | 12,500-15,500 | 8.5 | 60.00 | .35 | 4.40 | 22.00 | 2.75 | 1.23 | 557A103-1 |
| 27 | 9,000-11,000 | 8.5 | 48.00 | .30 | 3.40 | 13.00 | 3.76 | 2.13 | 557A103-2 |

**Because of motor losses and the variable types of commutation/drive electronics, stall currents and torques will not always be attainable

NOTE: Alternate windings (voltage, speed) are available

*When You Order

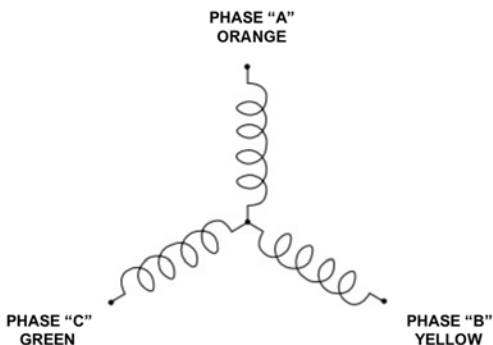
Units shown above are standard and may be ordered by part number. Remember to include motor winding dash number,

EXAMPLE: 557A103-1

Lead Wire Designation

| LEAD WIRE COLOR CODE | | | |
|----------------------|--------------|-----|--------------|
| LEAD | COLORS | AWG | DESCRIPTIONS |
| + VDC | RED/WHITE | 24 | HALL SENSORS |
| GROUND | BLACK/WHITE | 24 | |
| HALL "A" | ORANGE/WHITE | 24 | |
| HALL "B" | YELLOW/WHITE | 24 | |
| HALL "C" | GREEN/WHITE | 24 | |
| PHASE "A" | ORANGE | 20 | MOTOR LEADS |
| PHASE "B" | YELLOW | 20 | |
| PHASE "C" | GREEN | 20 | |

Motor Coil Connections



Commutation and Connection Diagrams

